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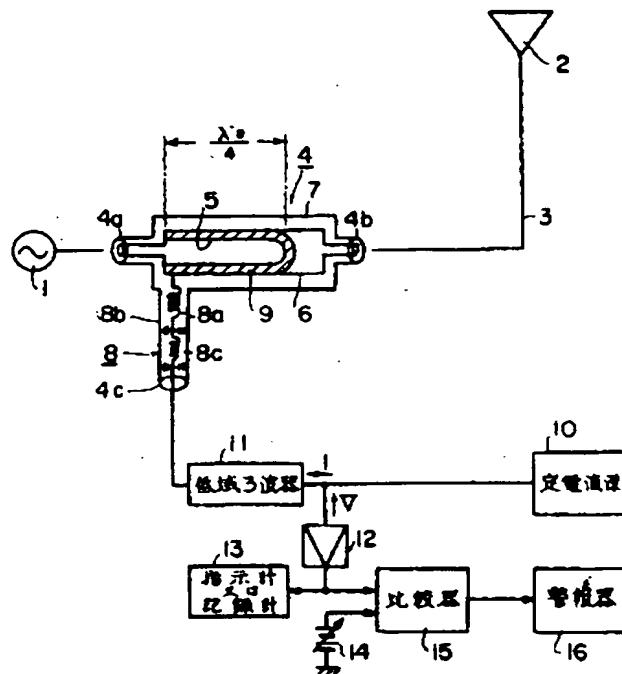
APPLICATION DATE : 30-07-82
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APPLICANT : SUMITOMO ELECTRIC IND LTD;

INVENTOR : OISHI TAKASHI;

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TITLE : AUTOMATIC MONITORING DEVICE OF DC RESISTANCE IN ANTENNA FEEDER SYSTEM



ABSTRACT : PURPOSE: To monitor a DC resistance at antenna side at all times, by flowing a constant current to a feeder and an antenna via a coupler.

CONSTITUTION: The coupler 4 is connected between a transmitter 1 and the feeder 3. The constant current from a constant current power supply source 10 reaches the coupler 4 with an inner conductor 8a of a coupling line 8. The inner conductor 8a of the coupling line 8 is connected to an inner conductor 6 of the feeding line side of the coupler 4 and insulated from an inner conductor 5 of the transmitter side, then a low frequency current I enters the inner conductor of the feeder 3 and reaches an antenna 2, is folded back at the feeding section of the antenna 2 and returns to the constant current source 10 in the reverse path through the outer conductor. A voltage $V = I \cdot r$ is generated between the inner and outer conductors at the terminal of the constant current power supply source 10 of a low-pass filter 11, where (r) is a DC resistance viewing the antenna side from the terminal. The change in the DC resistance of the feeder/antenna system is observed by observing the voltage V . Since the constant current I is flowed independently of the irradiation and stopping of a radio wave, the DC resistance (r) of the antenna feeder is monitored continuously at all times.

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